

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
	)	
Petition Pursuant to 47 U.S.C. §160(c)	)	WT Docket No. 02-377
For Forbearance From E911	)	
Accuracy Standards in Section 20.18(h)	)	
of the Commission's Rules	)	

**REPLY COMMENTS OF THE  
TIER III COALITION FOR WIRELESS E911**

Tier III Coalition for Wireless E911

Michael K. Kurtis  
Jerome K. Blask  
Joshua P. Zeldis

Kurtis & Associates, P.C.  
1000 Potomac Street, N.W.  
Suite 200  
Washington, D.C. 20007

Its Attorneys

Dated: February 10, 2003

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### **Exhibit A**

Declaration of Mark Dundas, President, HickoryTech Wireless

## SUMMARY

The initial comments in this proceeding overwhelmingly support the validity and necessity of limited relief from strict enforcement of Section 20.18(h) accuracy requirements as proposed in the Tier III Coalition for Wireless E911's above-captioned *Forbearance Petition*. Commenting wireless carriers (and their respective trade associations) agree that realizing the subject rule's accuracy and reliability requirements in geographically rural areas are, at best, prohibitively expensive. As one commenting party noted, the number of base stations and network elements required to provide wireless service over vast expanses of rural territory is inadequate for triangulating the "XY" coordinates of E911 callers. Thus, to facilitate triangulation, multiple additional cell sites will have to be added by rural carriers deploying network-based (and handset-based/network assisted) solutions. Many sites so added will be located beyond market boundaries and, as a result, will never provide actual wireless coverage or produce wireless revenue for the carrier. Regarding handset-based solutions to Phase II accuracy, no commenting party disputes the claim that TDMA-compatible, ALI-capable handsets are non-existent and no vendor is developing such a handset. ALI-enabled handsets that do exist exhibit inherent technological limitations and, even if the technology worked perfectly in rural areas, Tier III carriers' access to these handsets is severely constrained.

Opposition to the *Forbearance Petition* is very limited, comprising just two out of the fifteen comments filed. This minimal opposition appears to be a product of the opponents' misinterpretation of the extent and purpose of the relief being sought. TierIII Co seeks no delay in prompt deployment of Phase II solutions following a valid PSAP request, but only to insulate a carrier that undertakes a "one-to-one" deployment in a rural environment from enforcement liability if it fails to attain Section 20.18(h) accuracy. Moreover, if the proposed forbearance is

granted, Tier III carriers will still be obligated to comply with the bulk of their E911 obligations, such as selecting, ordering, installing and optimizing Phase II technical solutions within six months of a PSAP request or by September 1, 2003, whichever is later. Thus, limited forbearance will in no way compromise public safety and may actually enhance safety.

Small, rural carriers have expended substantial time, effort and capital in futile attempts to attain Phase II accuracy as quantified in Section 20.18(h). As described herein, one Tier III Co member has invested \$750,000 in an attempt to comply with Section 20.18(h) at 20 contiguous cell sites and anticipates an additional capital expenditure of approximately \$1 million to achieve this level of deployment at the remainder of its rural cell sites. Notwithstanding the exorbitant outlay, the carrier believes its efforts have been utterly in vain. Absent forbearance, this carrier will still need to seek a Section 20.18(h) waiver, requiring the Commission to evaluate and dispose of that individual request and, in all probability, dozens of similar requests as well. A grant of limited forbearance will be far preferable to a waiver approach because it does away with the need for Commission disposition of multiple waiver requests while assuring Tier III carriers who meet a defined level of deployment that they will be insulated from agency enforcement action for a specific interval.

As the foregoing demonstrates, a grant of limited forbearance will further the Commission's longstanding policy objective of promoting safety of life and property and is decidedly in the public interest. The Commission should forbear from enforcing the accuracy standards in Section 20.18(h) of the Rules up to and including December 31, 2005.

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The Tier III Coalition for Wireless E911<sup>1/</sup> (“TierIIICo”), by its attorneys and pursuant to the Commission’s Public Notice, hereby submits reply comments with respect to the above-captioned petition, which TierIIICo filed on November 20, 2002. TierIIICo’s *Forbearance Petition*<sup>2/</sup> asks the Federal Communications Commission (“FCC” or “Commission”) to forbear from enforcing the accuracy and reliability standards set forth in Section 20.18(h) of the Commission’s Rules with respect to Commercial Mobile Radio Service (“CMRS”) provided by Tier III wireless carriers in their Commission licensed service areas until December 31, 2005. Significantly, TierIIICo seeks no delay in the deployment of location identifying E911 Phase II technologies as required by Section 20.18. TierIIICo will demonstrate below that the arguments set forth in its *Forbearance Petition* along with the overwhelming support by the vast majority of

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<sup>1/</sup> TierIIICo, a group of Tier III carriers whose members are listed in Appendix A of its petition, is seeking forbearance relief from Phase II E911 accuracy standards in Section 20.18(h) of the Rules.

<sup>2/</sup> *Petition Pursuant to 47 U.S.C. §160(c) for Forbearance from E911 Accuracy Standards Imposed on Tier III Carriers for Locating Wireless Subscribers Under Rule Section 20.18(h)*, WT Docket No. 02-377 (November 20, 2002) (“*Forbearance Petition*”).

commenters convincingly demonstrate that the Commission should grant TierIII Co's forbearance request.

## **I. BACKGROUND**

The Commission's E911 docket, Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems ("E911 Emergency Calling Systems Docket"), CC Docket No. 94-102, has been open and active for the past eight years during which time the Commission sought to realize improved wireless E911 capability and thereby promote safety of life and property in this nation.<sup>3/</sup> From the beginning, E911 regulations have been revised, amended and revamped on numerous occasions. Only months ago, in the *Phase II Stay Order*,<sup>4/</sup> the Commission found it necessary again to defer its recently established compliance deadlines for both handset and network-based Phase II technologies.

TierIII Co filed its *Forbearance Petition* in response to the numerous problems facing Tier III carriers in attempting to meet the Phase II accuracy rules in rural deployments. If granted, limited forbearance will afford Tier III carriers who satisfy a significant minimum level of deployment, a safe harbor from enforcement while allowing them the opportunity to resolve outstanding Phase II implementation issues and achieve the Commission's goal of enhancing public safety. If limited forbearance is denied, the Commission will undoubtedly be deluged with numerous individual waiver requests, resulting in the necessity of granting a blanket waiver

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<sup>3/</sup> A background history, summarizing the E911 proceeding, is detailed in TierIII Co's *Forbearance Petition* at 2-9.

<sup>4/</sup> Revision Of The Commission's Rules To Ensure Compatibility With Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102 (Order To Stay), 2002 FCC LEXIS 3638, FCC 02-210 (2002) ("*Phase II Stay Order*").

to every applicant, pending consideration of each individual waiver.<sup>5/</sup> The TierIII Co forbearance would only apply where the carrier has deployed a network-based or network-assisted handset-based solution at all cell sites in a triggering PSAP's service area, as well as those sites that can add to the achievable accuracy within that area. While the record clearly indicates that such a deployment will fall short of meeting the Commission's accuracy requirements in rural deployments, the granting of the forbearance itself will not be the cause of that inability. Rather, the grant of the relief sought will only serve to provide these rural carriers with a clearly defined deployment obligation which, if met, will afford them an additional, yet limited period of time, until December 31, 2005, in which to build a solid record as to the level of locational accuracy needed in rural deployments, and time to meet that level of accuracy.

## **II. THE OVERWHELMING MAJORITY OF COMMENTERS SUPPORT TIERIII CO'S FORBEARANCE PETITION**

Fifteen parties filed comments on the *Forbearance Petition*.<sup>6/</sup> Only the joint comments of NENA, APCO and NASNA<sup>7/</sup> and a one-page submission by On-Board Communications, Inc.

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<sup>5/</sup> See *Forbearance Petition* at 12; Comments of the Organization for the Promotion and Advancement of Small Telecommunications Companies ("OPASTCO") (OPASTCO identifies the Communications Assistance for Law Enforcement Agencies (CALEA) and the TeleTYpewriter (TTY)-911 proceedings as instances when the Commission similarly has been forced to grant blanket waivers).

<sup>6/</sup> *Wireless Telecommunications Bureau Seeks Public Comment on Petition for Forbearance from E911 Accuracy Standards Imposed on Tier III Carriers*, Public Notice, WT-Docket No. 02-377, DA 02-3470, released December 17, 2002.

<sup>7/</sup> Comments of National Emergency Number Association, the Association of Public Safety Communications Officials-International, Inc. and the National Association of State Nine One One Administrators ("Joint Commenters").

oppose the *Forbearance Petition's* grant.<sup>8/</sup> All other commenters either fully support the logic and conclusion of the *Forbearance Petition*,<sup>9/</sup> or voice approval of TierIII Co's arguments but ask the Commission to extend forbearance relief to all carriers serving rural areas.<sup>10/</sup> In regard to the latter, TierIII Co has no objection to extending the grant of relief to all carriers serving rural areas, but wishes to clarify that its analysis in its *Forbearance Petition* was limited to Tier III carriers operating in such rural areas. To the extent that major metropolitan market carriers are unable to average the higher accuracy attainable in their metropolitan areas to relax their need for meeting the Commission's accuracy requirements to an attainable level in their rural markets, the relief sought herein may in fact be applicable to those carriers as well. TierIII Co's main concern, however, is that carriers providing service to predominantly rural areas cannot meet Section 20.18(h) accuracy requirements in those rural areas with any currently available Phase II solution.

The difficulty in achieving the Commission's accuracy and reliability requirements in rural settings is well documented by the commenting parties in this proceeding, who show that

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<sup>8/</sup> Comments of On-Board Communications, Inc. ("On-Board").

<sup>9/</sup> Comments of OPASTCO; Comments of National Telecommunications Cooperative Association ("NTCA"); Comments of Rural Cellular Association ("RCA"); Corr Wireless Communications, LLC ("Corr"); Comments of Rural Telecommunications Group ("RTG"); Comments of Southern Illinois RSA Partnership, Texas RSA 15B2 Limited Partnership and SLO Cellular, Inc. ("ALI Commenters"); Comments of Cable & Communications Corporation ("C&CC"); Comments of ACS Wireless, Inc. ("ACS"); Comments of PetroCom License Corporation ("PetroCom").

<sup>10/</sup> Rural Cellular Corporation ("RCC") and Dobson Communications Corporation ("Dobson") request that the Commission also grant forbearance to Tier II carriers. *See* Comments of RCC at 1; Comments of Dobson at 1. Cellular Telecommunications & Internet Association ("CTIA") and Verizon Wireless ("Verizon") request that forbearance, if granted, be accorded to all carriers operating in rural markets regardless of size. *See* Comments of CTIA at 1; Comments of Verizon at 5.



rural wireless systems confront coverage and other technical challenges that are substantially more difficult than those faced by carriers serving urban and suburban areas.<sup>11/</sup> As TierIII Co's *Forbearance Petition* and nearly all commenting parties have noted, the unique configuration of rural systems, coupled with terrain characteristics and other environmental features of these areas, substantially complicate the triangulation process on which network-based Phase II technology depends.<sup>12/</sup> Verizon aptly agrees:

...the number of base stations and network elements sufficient to provide quality CMRS voice calling over vast swaths of rural geography is often not sufficient for triangulating the location of mobile callers. Wireless networks were designed for voice communication, not for location determinations. The investment necessary to achieve the Commission's accuracy requirements utilizing a network-based solution can be prohibitively expensive for carriers operating in rural areas regardless of size.<sup>13/</sup>

Thus, in order to achieve Section 20.18(h) accuracy, the vast majority of commenters agree with TierIII Co that rural carriers deploying network-based and handset-based/network assisted solutions will be forced to add numerous base stations solely to facilitate triangulation. A significant number of cell sites will need to be added above those needed to provide CMRS coverage. Moreover, in order to ensure accuracy throughout a licensed coverage area, many of those additional base stations will need to be placed beyond the market boundaries to enable the rural carrier to meet accuracy standards market-wide. Those sites, located beyond licensed

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<sup>11/</sup> See, e.g., Comments of OPASTCO at 3; Comments of RCA at 2-4; Comments of NTCA at 2; Comments of RTG at 2-4; *Forbearance Petition* at 13-18.

<sup>12/</sup> See, e.g., Comments of Verizon at 2; Comments of RCA at 2-6; Comments of OPASTCO at 3; Comments of CTIA at 2-4; Comments of NTCA at 2-3; Comments of PetroCom at 4-7; Comments of RTG at 2-3; Comments of RCC at 3-5; Comments of ACS at 1-2; Comments of Dobson at 2-3; Comments of Corr at 2-3; Comments of ALI Commenters at 3-4.

<sup>13/</sup> Comments of Verizon at 2.

CMRS market boundaries, will never be used for CMRS coverage or to generate revenue. The resulting costs will make it difficult for rural wireless carriers to operate without either unduly burdening subscribers with high fees and charges or eliminating service in areas where costs of Section 20.18(h) compliance are burdensome.<sup>14/</sup>

Multiple commenters relate that their difficulty in complying with the Commission's Phase II accuracy standards involves handset-based, as well as network-based, technology.<sup>15/</sup> While handset-based technology offers the promise of a higher achievable accuracy in rural deployments, Tier III carriers, as explained in the *Forbearance Petition*, encounter daunting problems when considering a handset-based, Phase II solution. First, TDMA-compatible, ALI-capable handsets are nonexistent; no vendors plan to develop such a handset.<sup>16/</sup> TDMA-based Tier III carriers have no handset option whatsoever, unless they are willing to assume the huge investment necessary to retrofit their networks with an entirely new digital interface.<sup>17/</sup> Having incurred that vast expense, these carriers will still be unable to provide Phase II locational

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<sup>14/</sup> See Comments of RCA at 4-5; Comments of NTCA at 2; Comments of CTIA at 2; Comments of RTG at 3; Comments of PetroCom at 5; Comments of RCC at 3.

<sup>15/</sup> See Comments of C&CC at 1-2 ("C&CC is able to confirm that it is not aware of any network-based or analog handset ALI solution which will achieve the accuracy requirements specified by Section 20.18(h) of the Commission's Rules."); Comments of RCA at 5 ("...members report they have not been able to find a company that provides a reliable demonstration that its product meets the accuracy requirements in a rural environment with either a handset or network solution."); Comments of RTG at 2 ("[We are not] aware of TDMA handset-based solutions that will allow the Commission's current deadlines to be met."); Comments of Dobson at 4 (Handset based solutions "contain significant problems which would not meaningfully improve the availability of E911 Phase II services.")

<sup>16/</sup> See *Forbearance Petition* at 25-26.

<sup>17/</sup> *Id.* at 23.

accuracy to subscribers and roamers utilizing TDMA or otherwise incompatible handset technology.<sup>18/</sup>

Second, the ALI-enabled handsets that exist exhibit inherent technological limitations. When line-of-site contact with the GPS satellite is impeded or lost, the imperiled subscriber's coordinates cannot be accurately conveyed to the PSAP, a defect the Commission has acknowledged.<sup>19/</sup> Finally, even if this technology worked perfectly in rural areas, Tier III carrier access to ALI-capable handsets is subject to severe limitations and is clearly inferior to that of large nationwide and regional carriers.

Considering these well-documented facts, Verizon's comments are somewhat confusing. While advising that Verizon has access to more than enough CDMA ALI-compliant handsets to meet its needs,<sup>20/</sup> Verizon never addresses the *Forbearance Petition's* primary concern: in a rural environment, a handset's inability to "see" the satellite requires that the location determination is made on a network-assisted basis. Instead, Verizon contends that, to the extent handset technology is subject to limitations that compromise accuracy, then Verizon should also be entitled to relief from Section 20.18(h) compliance. While technological limitations facing rural Tier III carriers may be equally applicable to large carriers in a rural deployment, does Verizon, with more than 31.5 million subscribers over which to spread costs, truly lack an economically feasible Phase II solution for its rural markets. Moreover, in contrast to carriers that serve rural

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<sup>18/</sup> *Id.* at 23-24.

<sup>19/</sup> Revision Of The Commission's Rules To Ensure Compatibility With Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102 (Third Report and Order), 14 FCC Rcd 17388 (1999) ¶¶ 24, 57.

<sup>20/</sup> Comments of Verizon at 3.

areas exclusively, Verizon can use higher locational accuracy attainable in its urban markets to offset the sub-Section 20.18(h) accuracy it may experience in rural settings. For these reasons, a significant question exists whether Tier III Co's arguments for limited forbearance apply to carriers such as Verizon.

Regarding accessibility of ALI-capable handsets, Verizon, with more than 31.5 million subscribers domestically,<sup>21/</sup> has vastly greater access to ALI-capable handsets than rural Tier III carriers. Verizon admits its handset experience is limited to the CDMA protocol; thus, its comments are irrelevant to TDMA-based rural carriers who cannot satisfy their Phase II E911 obligation with handset technology unless they incur the enormous expense of retrofitting their networks with an entirely new digital protocol.<sup>22/</sup>

No Phase II solution can be economically deployed in a rural environment and satisfy Section 20.18(h) accuracy. Given that fact, which amply supported by commenting parties and nowhere challenged, imposes on the Commission the following options: grant the limited forbearance described in the *Forbearance Petition*; consider and decide individual waiver requests which will be filed by virtually every rural carrier that receives a Phase II PSAP request; or institute enforcement proceedings against rural carriers for Section 20.18(h) non-compliance. While the FCC clearly has jurisdiction over these rural carriers, it must bear in mind that these

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<sup>21/</sup> See, e.g. Verizon Wireless Advertisement, USA Today, February 7, 2003, at 12B. ("Use mobile to mobile minutes to call any of the 31.5 million Verizon Wireless customers on the national mobile to mobile network.")

<sup>22/</sup> *Forbearance Petition* at 23. The dependency of Tier III carriers on analog and TDMA technology and the difficulties Tier III carriers have faced in obtaining handsets compatible with these technologies is well documented in the *Hatfield Report*. See Dale N. Hatfield, *Report on Technical and Operational Issues Impacting the Provision of Wireless Enhanced Services*, WT Dkt. No. 02-46, filed October 15, 2002 ("*Hatfield Report*").

carriers are *not* the entities that create or even drive the technology. Should the Commission elect to utilize its enforcement authority, rural carriers could cease offering service in the area serviced by a Phase II-triggering PSAP. TierIII Co submits that that is the least desirable solution of all.

### **III. COMMENTS OBJECTING TO TIERIII CO'S PETITION FOR LIMITED FORBEARANCE ARE UNPERSUASIVE**

Only two comments were filed objecting to the limited relief sought by TierIII Co. On-Board's one-page submission offers no rational for opposition other than its claim that forbearance may be premature in light of alternative location technologies that can resolve TierIII Co's objections to strict adherence to Section 20.18(h) accuracy requirements. On Board, however, never describes these alternative technologies nor identifies their vendors. Indeed, On-Board's logic actually supports a limited forbearance for a limited period of time, during which alternative technologies can become fully developed and economically deployable. Significantly, TierIII Co seeks no delay in prompt deployment of Phase II solutions following a PSAP request. TierIII Co only seeks to insulate a carrier that makes a significant deployment in a rural environment and still falls short of meeting the Commission's accuracy requirements from facing enforcement proceedings.<sup>23/</sup> Grant of the requested forbearance would afford a two and a half year period of time in which these alternative technologies could be further developed and made commercially available.

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<sup>23/</sup> Section 20.18(h) non-compliance by rural carriers will place a large number of those carriers in default of their loan covenants, which require ongoing compliance with FCC rules. *See, e.g.,* Comments of RCA at 6. Rural carriers are frequently the exclusive providers of wireless communications to remote, non-urban locals and secondary traffic corridors. The Commission should heed the devastating impact on rural telecommunications that would result from forcing many, if not all, of the truly rural service providers into default on their financing.

The Joint Commenters filing is somewhat more detailed than On-Board's but ultimately proves just as unsatisfying. TierIII Co's specific response to the arguments set forth in those comments is presented below. Before addressing those specific comments, note the Joint Commenters' enviable perspective. In virtually all cases, the PSAPs' costs of becoming Phase II capable are publicly funded-- whether by special cost recovery mechanisms or public tax dollars. Moreover, PSAPs have no fixed calendar for attaining Phase II capability, and the obligation to attain that capability is never imposed by a third party. Of course, once the PSAP has obtained funding and taken whatever time it requires to deploy and test its system (which only interprets carrier-provided location data) the PSAP can impose on the rural carrier a six month "fire drill" to deploy a vastly more complex and expensive system, frequently without any cost recovery vehicle in place, and for which there is presently no known economical solution that can satisfy the Commissions' accuracy requirements. TierIII Co hoped that the PSAP community would embrace the limited forbearance proposed in its petition because it would hasten the availability of E911 location services in the rural market.<sup>24/</sup>

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<sup>24/</sup> As TierIII Co explained in its petition, conversion to handset-based solution, even if it worked in a rural deployment, would not actually make **any** Phase II location service available to users until such time as compatible handsets are deployed throughout a carrier's subscriber base, which is not required until December 31, 2005. Even then, no location service would be available to non-compatible roamer handsets accessing the rural carrier's system in the analog-only mode. In sharp contrast, forbearance would allow for the immediate deployment of a Phase II solution that would be able to immediately provide location service to all handsets accessing the system. The Joint Commenters never explain how public safety is enhanced by prohibiting a less accurate location service during that interim period, as opposed to a possibly higher accuracy system that actually affords **no** location service whatsoever until handsets become ubiquitous. Significantly, the TierIII Co forbearance request from enforcement of the accuracy requirements only extends until the same December 31, 2005 deadline for ubiquitous ALI-handset deployment. Accordingly, the only difference would be that adoption of the TierIII Co solution would make some level of location technology available to all mobiles years sooner.

**A. The Relief Sought by TierIII Co is Narrowly Focused in Both Scope and Duration to Achieve a Legitimate Public Interest Objective.**

The Joint Commenters claim that the *Forbearance Petition* fails to account for the “urban, suburban rural or mixed nature” of Tier III carriers’ service.<sup>25/</sup> The Joint Commenters also accuse Tier III carriers of inviting Tier I and Tier II carriers to seek forbearance relief for themselves.<sup>26/</sup> The Joint Commenters fear that by allowing limited forbearance to Tier III carriers, the Commission will go down a slippery slope that will do away with all Phase II regulations.<sup>27/</sup>

Once again, it appears as though the Joint Commenters have misinterpreted the scope of relief being sought.<sup>28/</sup> First, TierIII Co has not sought *any* relief from the Phase II deployment obligations, thereby making it impossible for the limited forbearance to somehow “...open the flood gates that would wash away the Phase II regulations.” Second, TierIII Co’s *Forbearance Petition*, clearly requests relief for deployments associated with rural markets and does not seek

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<sup>25/</sup> Comments of Joint Commenters at 2.

<sup>26/</sup> *Id.*

<sup>27/</sup> *Id.* at 3.

<sup>28/</sup> In another proceeding, several TDMA carriers (many of which are members of TierIII Co) had sought reconsideration of the requirement that they make their TDMA systems compatible with TTY devices in the narrow instance where, by the currently-imposed deadline, those carriers had overlaid a new digital technology that was capable of affording support to TTY devices. *See, e.g.,* Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, *Joint Petition for Reconsideration of Illinois Valley Cellular RSA 2, Missouri RSA No. 7 Limited Partnership and Public Service Cellular, Inc.*, CC Docket No. 94-102, filed July 27, 2002. The Joint Commenters objected only to subsequently withdraw their objection once they realized the narrow scope of relief that was actually being sought. *See, e.g., Opposition of NENA, APCO and NASNA*, CC Docket No. 94-102, filed September 26, 2002; *Comments of NENA, APCO and NASNA*, CC Docket No. 94-102, filed October 11, 2002.

relief for either Tier I or Tier II carriers or for urban deployments.<sup>29/</sup> The *Forbearance Petition* seeks relief exclusively for Tier III carriers in rural deployments because, as demonstrated in the comments and other pleadings in this proceeding, the Section 20.18(h) standards are economically unachievable in rural areas.

The Joint Commenters seek to further confuse the issue by raising the “argument” that rural has not been defined. TierIIICo did not expressly define what constitutes a rural deployment except to describe the rural environment as one characterized by widely spaced, tall cell sites, often in an omni-directional configuration. Indeed, upon filing the *Forbearance Petition*, counsel for TierIIICo met with counsel for the Joint Commenters and provided them a copy of the filing well in advance of the public notice. During that meeting it was explained that since the forbearance would only be applicable where a carrier deploying a network-based or network-assisted solution *had made the deployment at every cell site located within the requesting PSAP service area, as well as any additional cell sites which could aid in location to that PSAP service area*, TierIIICo saw no need to specifically define what is and is not a rural area. Where higher subscriber concentrations and traffic arteries dictate the deployment of a greater density of cell sites, deployment of the location-based technology at those closer-spaced cells should result in a higher locational accuracy being achieved. Significantly, TierIIICo also advised the Joint Commenters that it would not object to their proposing some form of limiting definition if that addressed their concern. Rather than acknowledge that TierIIICo seeks no

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<sup>29/</sup> Although TierIIICo would not object to a grant of forbearance for all carriers, its analysis was specific to Tier III carriers and thus does not contemplate forbearance for all carriers.



delay in implementing location-based E911 service to rural areas, the Joint Commenters appear adamantly opposed to any relief for the class of carriers' for whom they profess "sympathy."<sup>30/</sup>

TierIII Co seeks forbearance for a limited period, up to and including December 31, 2005, from strict enforcement of Section 20.18(h) against Tier III carriers where the carrier has deployed an E911 Phase II solution at *all* of its existing cell sites. Assuming forbearance is granted, Tier III carriers will still be obligated to comply with the bulk of their E911 obligations, such as selecting, ordering, installing and optimizing Phase II technical solutions within six months of a PSAP request or by September 1, 2003, whichever occurs later. These deployments, however, will be limited to utilization of existing CMRS transmitting sites and antenna systems for both network-based and handset-based/network assisted solutions. Assuming forbearance is granted, Tier III carriers deploying to this level would avoid enforcement action if the ensuing accuracy levels throughout their respective service areas failed to meet Section 20.18(h) thresholds.

TierIII Co and other commenters have no expectation that limited forbearance will compromise public safety; to the contrary, forbearance should enhance public safety.<sup>31/</sup> TierIII Co has no desire to "open floodgates" that will erode Phase II Regulations, but seeks rather to solve a problem so severe that it currently leaves rural Tier III carriers with little option but to: (1) immediately terminate service to their customers; or (2) incur the enormous expense of deploying an unproven E911 Phase II solution with an expectation of still failing to meet the

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<sup>30/</sup> Comments of Joint Commenters at 6.

<sup>31/</sup> See discussion *supra* note 40; *Forbearance Petition* at 19.

accuracy requirements. Neither option is in the best interest of the public, consumers, or the Commission.

**B. The Relief Sought by TierIII Co is Consistent with the Public Safety Objectives of the E911 Emergency Calling Systems Docket.**

Conceding that the costs of Phase II deployment could make personal wireless service unaffordable to rural consumers, the Joint Commenters claim that such an undesirable outcome must be balanced by the concern that public safety will consume hours or days of search time looking for imperilled callers (presumably if forbearance is granted). The Joint Commenters argue that although the costs of Phase II deployment could make personal wireless service unaffordable to rural consumers, it is unacceptable for public safety to consume hours of delay of search time looking for callers in distress.<sup>32/</sup> The Joint Commenters fail to address how emergency personnel will locate E911 callers if rural carriers, intimidated by the threat of Section 20.18(h) enforcement action, decline to extend service into a remote area, or terminate existing rural service. The inability of “victims and their families” to even place calls for help would be the least desirable outcome of all!

The Joint Commenters assert, but never explain why, a unitary locational accuracy standard is better than multiple standards.<sup>33/</sup> Rather than “delude ourselves that a single variable of, say, population density can be a realistic basis for separate urban, suburban and rural standards”<sup>34/</sup> the *Forbearance Petition* proposes that during the forbearance period, “real world”

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<sup>32/</sup> *Id.* at 4.

<sup>33/</sup> *Id.*

<sup>34/</sup> *Id.*

data be collected on the time needed to actually locate emergency callers based upon the accuracy attained by deployed Phase II systems.<sup>35/</sup> If this reduced accuracy results in “hours or days of search time looking for callers” as the Joint Commenters assert, it would clearly support the maintenance of the higher standard presently manifested in the rules. If that is not the case, the “real world” may well demonstrate that rural deployments can meet the same public goal of speeding emergency personnel to stranded mobile users with a somewhat lower standard than required in urban settings. While precisely pinpointing the location of every emergency caller may be optional, small, rural carriers, with no public subsidy and in many cases without realistic cost recovery mechanisms, cannot shoulder this burden. The forbearance proposal would ensure meaningful deployment of location-based technologies, on a more expeditious basis than strict enforcement of the current rules.

That an inordinately strict accuracy standard will involve a capital expenditure so steep that it is likely to discourage carrier compliance is acknowledged by none other than the Joint Commenters themselves. Regarding the *ex parte* submission of vendor True Position, Inc. in July 2000 (included in the *Forbearance Petition* as Exhibit B), the Joint Commenters remark:

We can understand and can appreciate the vendor’s comments – dating from two and a half years ago – about the speed and economy of rolling out quasi-Phase II systems on a “1-to-1 overlay scenario.” TruePosition in the year 2000 hardly wanted to *scare away purchasers* by proposing massive system expansions at the start.<sup>36/</sup>

Thus, the Joint Commenters frankly concede that Section 20.18(h) compliance in the network solution context requires “massive” construction of non-revenue producing base station

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<sup>35/</sup> *Id.* at 2-3.

<sup>36/</sup> Comments of Joint Commenters at 5 (internal footnote omitted; emphasis added).

sites and network elements that will “scare away” the very carriers who are supposed to implement this solution. How reflexive adherence to this imposing accuracy limit will advance public safety in rural areas and territories defies a comprehensible explanation.

TierIII Co’s forbearance proposal, which requires carriers to install network-based Phase II solutions at existing transmitting facilities or distribute ALI-capable handsets (without further systems enhancements), threatens no carrier because no enforcement action will ensue if the resulting accuracy falls outside Section 20.18(h) parameters. During the forbearance period, all interested parties will strive to overcome the multiple issues that continue to vex Phase II solutions in the smallest, rural markets served by Tier III carriers. As these matters are resolved, E911 accuracy and reliability in Tier III markets can be expected to improve. At the same time, interested parties will determine the locational accuracy that can be economically attained for both network and handset-based technologies in “real world” deployments in rural applications. Finally, “real world” information can be gathered to enable the Commission to actually determine the accuracy levels that are truly required to meet the public safety need in these demographically-distinctive areas.

Admittedly, Section 20.18(h) accuracy standards would not be achieved in most or many rural locales under this forbearance scenario. Nevertheless, the voluminous record before the Commission appears devoid of any real-world evidence to suggest that such shortfall will result in any degradation in public safety or in any deterioration in the time required to locate an imperiled caller.<sup>37/</sup> Relative to the *status quo* or a context where carriers are scared away from

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<sup>37/</sup> ACS argues that in its area the public safety can be readily achieved through the provision of Phase I information or less accurate Phase II information. Comments of ACS at 2; Corr relates that out of approximately 100 million placed calls and 14,000 calls to 911, they are unaware of any circumstance where Corr was unable to give public safety personal enough (*Footnote Continued*)

investing in Phase II solutions, the forbearance proposal advocated by TierIII Co will advance public safety and locational accuracy and, therefore, is completely consistent with the Commission's objectives in the E911 Emergency Calling Systems Docket.<sup>38/</sup>

**C. The Relief Sought by TierIII Co Will Allow Carriers to Serve Their Markets While Rolling Out a Viable Phase II E911 Solution.**

In concluding its comments in response to TierIII Co's *Forbearance Petition*, the Joint Commenters remark that although they have sympathy for the plight of rural carriers whose subscriber base cannot support substantial and immediate system expansion, they "wonder" whether forbearance would give carriers any incentive to improve.<sup>39/</sup> As supported by the analysis in its petition, and further evidenced by commenters in this proceeding, carriers have not sat idly by "wondering" how they can achieve Phase II compliancy.<sup>40/</sup> Indeed, TierIII Co

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information to locate a caller. A Phase I emergency caller was even located in a remote cave simply on the basis of Phase I information. *See* Comments of Corr at 4-5.

<sup>38/</sup> Again, by citing the True Position *ex parte* filing (Exhibit B to the *Forbearance Petition*), the Joint Commenters (at 5) endorse and affirm TierIII Co's argument:

In the future, the natural development of CMRS networks will lead to improvements in location accuracy. For example, the number of cell sites nationwide continues to grow dramatically. This increases cell site density which directly affects location processing. Moreover, cell sites are gradually being converted from omnidirectional antennas to sectorized antennas. This increases the gain of the antennas in rural areas and can increase the number of cell sites available for location processing.

<sup>39/</sup> Comments of Joint Commenters at 6.

<sup>40/</sup> Dobson states that it is making a good-faith effort to deploy a network-based system in all of its markets. Dobson's efforts include contracting with Grayson Wireless to deploy a network-based solution and attempting to collocate E911 facilities antennas on other carrier's towers. Despite their best efforts, Dobson admits that its network design "may render meeting these accuracy standards impossible in the immediate future." Comments of Dobson at 3. (*Footnote Continued*)

members themselves have been actively making changes to their systems in an attempt to become Phase II compliant. The situation of HickoryTech Wireless (“HickoryTech”), a Tier III Co member, vividly illustrates the time, effort and capital that small, rural carriers have expended in futile attempts to attain Phase II accuracy rules. HickoryTech has contracted with a prominent location technology vendor to deploy a network-based Phase II solution on HickoryTech’s cellular system in the Minnesota 10 – Le Sueur RSA and rural portions of the Minneapolis-St. Paul, MN-WI MSA.<sup>41/</sup> In response to a Phase II trigger, HickoryTech has, to date, deployed a network-based solution at 20 contiguous cell sites, representing all of its CMRS cell sites serving the relevant 2500 square mile area. Although it has spent, to date, approximately \$750,000, the Phase II deployment fails to comply with Section 20.18(h).<sup>42/</sup> HickoryTech faces an estimated additional cost of approximately \$1 million to achieve this level of deployment at the remainder of its rural cell sites. Yet, there is absolutely no basis upon which to believe that the Commission’s accuracy requirements will be met in those additional rural areas even after that deployment.

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C&CC is negotiating with equipment and database vendors to provide a network-based ALI solution. Comments of C&CC at 3. RCC is attempting to use Time Difference of Arrival and Angle of Arrival technology to meet the Commission’s requirements even though it admits that “despite its best efforts and committed investment to E911 Phase II implementation, RCC is not confident that the required accuracy levels can be achieved in rural markets.” Comments of RCC at 3-4.

<sup>41/</sup> While HickoryTech is the licensee for a portion of the Minneapolis MSA, it should be noted that HickoryTech only serves the rural portion of that MSA. Indeed, HickoryTech obtained its license only after the original MSA licensee apparently decided that the area involved was too rural to serve economically and allowed it to become Unserved Area.

<sup>42/</sup> See Declaration of Mark Dundas, President, HickoryTech Wireless attached hereto as Exhibit A.

The HickoryTech example clearly demonstrates why limited forbearance should be granted. Notwithstanding expending a projected \$2 million dollars toward achieving E911 Phase II locational accuracy, HickoryTech will need to petition the Commission for a Section 20.18(h) waiver. Analyzing that waiver, the Commission will consider HickoryTech's efforts to comply with Phase II accuracy requirements. In examining the record, the Commission will find that HickoryTech deployed a network-based solution *at every existing cell site*, utilizing existing antenna systems at those cell sites; having spent an estimated \$2 million dollars in this effort, HickoryTech was still non-compliant. The Commission has already advised that where compliance with Phase II obligations would prove too burdensome to carriers, they are authorized to seek individual waivers.<sup>43/</sup> Considering the relevant facts, it is difficult to believe that the Commission could avoid concluding that application of Section 20.18(h) to HickoryTech would be "inequitable" or "unduly burdensome," in accordance with the waiver standard in Section 1.925(b)(3)(ii) of the Rules.

Assuming the obvious result that a waiver would be granted, it appears as though the Commission would need to establish a standard for ruling on such waivers. Since the dollar amount of the deployment will vary by the size of the carrier involved, the logical basis for assessing the efforts made by the carrier to meet these requirements would be the degree to which it has deployed a technological solution. TierIII Co respectfully submits that where the

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<sup>43/</sup> "Where our rules impose a disproportionate burden on a particular carrier, the carrier may work with the public safety entities involved to mitigate that burden and, if necessary, may seek individual relief from the Commission." *Order on Reconsideration, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Request of King County, Washington*, FCC 02-146, CC Docket No. 94-102, (rel. July 24, 2002), at paragraph 18.

carrier has made the deployment *at every one of its existing cell sites*, a good faith effort to comply will have been demonstrated.

The *Forbearance Petition* asks for nothing more but avoids the need for every carrier to individually file the same waiver, with the same justifications. It also frees the Commission staff from the need to individually evaluate every such waiver request. Moreover, a grant of limited forbearance provides certainty by allowing carriers to proceed knowing that by meeting a defined level of deployment they will be entitled to a safe harbor for a specified period of time.

The forbearance route will also allow carriers to avoid non-compliance simply because the Commission has had insufficient time to resolve their waiver requests. After a PSAP submits a Phase II request, the process of securing a binding vendor quote, executing a contract, and obtaining, installing and testing equipment is likely to consume the entire six months allotted under Section 20.18(g). Accordingly, the carrier's waiver may be filed only days before it is in violation of the accuracy rules. That clearly would not afford the Commission sufficient time in which to act on the waiver request. The Commission has already established that filing an E911 Phase II waiver that does not afford the Commission sufficient time to act in advance of an implementation deadline is the basis for imposition of substantial penalties.<sup>44/</sup> Indeed, forbearance appears to be far and away the better alternative.

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<sup>44/</sup> In the Matter of AT&T Wireless Services, Inc., *Notice of Apparent Liability for Forfeiture*, FCC 02-142, (rel. May 20, 2002).



#### **IV. CONCLUSION**

TierIII Co's arguments in its forbearance petition, this instant reply and the comments filed in response, read together, show that forbearing from strict enforcement of Section 20.18(h)'s locational accuracy requirements in rural applications is particularly well-justified under present circumstances. TierIII Co recognizes the urgent need for providing locational assistance in emergency situations. Accordingly, it is significant to note that in seeking this forbearance, TierIII Co does not seek to delay the deployment of Phase II solutions. Rather, TierIII Co seeks to establish a safe harbor wherein a carrier knows that once it has deployed a network-based or network-assisted solution at all of its existing cell sites that provide CMRS service or, while perhaps not being able to offer CMRS service in that area, could be used to enhance the locational accuracy in a triggering PSAPs service area, the carrier will not face enforcement proceedings if, prior to December 31, 2005, that level of deployment falls short of meeting the Commission's accuracy requirements. During the interim, the carriers, working in conjunction with emergency response personnel, will gather real-world data to enable the FCC to learn precisely what level of accuracy is needed in rural environments. During the next 2 ½ years, the locational technology can be expected to continue to advance and the cost to continue to come down, thereby enabling further levels of deployment to further improve the attainable accuracy. It is important to keep in mind that all funds used toward this worthwhile goal are taken away from funds that could be used to enhance and expand CMRS coverage into more rural areas. What a tragedy it would be if the rural carriers were forced to divert all available funds in a futile effort to achieve an accuracy level that, in the real world, was neither achievable nor necessary in order to meet the Commission's goals at the expense of not building a cell site that would provide the first CMRS service in a new rural area. What a tragedy it would be

indeed if that area denied CMRS service was where an emergency call for help went uncompleted because there was no CMRS coverage at all. What a tragedy if strict enforcement of the Commission's rules forced carriers to withdraw from areas where they are presently providing CMRS service as the most economical means of avoiding enforcement proceedings for violation of the Commission's locational accuracy rules. Such tragedy could be averted by grant of the limited forbearance sought herein. TierIII Co therefore again urges the Commission to forbear from enforcing the accuracy standards in Section 20.18(h) of the Rules up to and including December 31, 2005.

Respectfully submitted,

Tier III Coalition for Wireless E911

Dated: February 10, 2003

By: /s/ Michael K. Kurtis

Kurtis & Associates, P.C.  
1000 Potomac Street, N.W.  
Suite 200  
Washington, D.C. 20007  
(202) 328-4500

Michael K. Kurtis  
Jerome K. Blask  
Joshua P. Zeldis

Its Attorneys

**EXHIBIT A**

Declaration of Mark Dundas, President  
HickoryTech Wireless

## **AFFIDAVIT**

I, Mark S. Dundas, hereby declare and state as follows:

1. I am a Network and Switch Engineering Manager in the field of wireless telecommunications with HickoryTech Wireless ("HickoryTech"), a "Tier III" CMR carrier as defined by the Federal Communications Commission ("FCC");
2. As Minnesota Southern Cellular Telephone Company d/b/a HickoryTech Wireless, HickoryTech provides cellular radiotelephone service using analog and TDMA digital technology to CMA market 491A, the Minnesota 10 – Le Sueur RSA, under call sign KNKN572;
3. As Minnesota Southern Wireless Company d/b/a HickoryTech Wireless, HickoryTech provides cellular radiotelephone service using analog and TDMA digital technology to CMA market 015A2, rural portions of the Minneapolis-St. Paul, MN-WI MSA, under call sign KNKR320;
4. HickoryTech is familiar with the Federal Communications Commission's Rules and Regulations, including Part 22 and Section 20.18 regarding the provision of Enhanced 911 services;
5. HickoryTech is familiar with the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102;
6. I am familiar with the technical options available to cellular carriers such as HickoryTech for the provision of Enhanced 911 services, and the current technological limitations inherent to those options.
7. Based on the information available at the time of technology selection, including the lack of commercial availability of GPS-equipped handsets for TDMA digital networks, HickoryTech chose to install a "network-based" E911 Phase II solution.
8. HickoryTech operates a total of 37 cell sites in its licensed service areas. To date, HickoryTech has installed its Phase II system at 20 contiguous clustered cell sites in the spirit of cooperation with the PSAP's in its service area and to benefit the public. These cell sites are typically spaced between 15 and 20 miles apart. These 20 cell sites represent 100% of the cell sites that HickoryTech has deployed to provide cellular service to a geographic area of approximately 2,500 square miles of predominantly rural territory within its service areas. Unfortunately, upon completion of this installation and initial testing, the PSAP's have not yet conducted or even scheduled any testing of their ability to accept location data from HickoryTech, despite having advised HickoryTech that they were ready at the time when they triggered the Phase II request. .

9. While formal confidentiality agreements with its system vendor limit the specific information that HickoryTech can include in this filing, HickoryTech has completed accuracy testing of its initial 20 cell site system
10. To date, HickoryTech has spent approximately \$750,000 to install and test the network-based solution at these facilities, including costs for the Position Determination Entity ("PDE") equipment, switch upgrades, backhaul, routing, and related equipment and services.
11. Formal testing of HickoryTech's deployed Phase II system, conducted by the PDE vendor, shows that the deployed system, as a whole, fails to meet the FCC's accuracy requirements for a network-based Phase II E911 system.
12. Furthermore, the vast majority of test measurements were taken from within the cluster of equipped locations. Those few test measurements made along and outside of the perimeter of the cluster were far less accurate than those made within the cluster. While these areas receive cellular service, which only requires a radio path with a single antenna site, they have less of the multiple site signal overlap upon which network-based E911 triangulation is based.
13. Improvements in accuracy would require the construction of multiple additional antenna locations within the deployed cluster where current inter-site distances appear to degrade the accuracy of the Phase II measurements.
14. The incremental cost to deploy a new antenna facility specifically for Phase II measurement is significantly higher than the per-site costs already incurred by HickoryTech, and would be cost-prohibitive and harmful to HickoryTech's ability to provide wireless service, thereby removing the E911 Phase II service that HickoryTech is already able to provide.
15. Moreover, HickoryTech estimates that it will cost an additional \$1,000,000 just to equip and deploy the E911 Phase II technology at its remaining facilities. The sites are even more rural in nature and therefore more costly to deploy than the sites already equipped with the technology. These remaining sites have even greater inter-site distances than those already equipped and tested, thereby having even less of the overlap necessary for network-based triangulation. Therefore, it is reasonable to expect less accurate performance from these remaining facilities, despite the increased expenditures to equip them.
16. The foregoing statements are true and correct of my own knowledge except such statements herein made on information and belief, and as to such statements, I believe them to be true;

I declare under penalty of perjury that the foregoing is true and correct.

2/10/03  
Date

  
Mark S. Dundas